

In response, Claim 19 has been amended to be directed to the acrylic composition. Thus this reason for rejection should be withdrawn.

Claims 2-4, 9, and 16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention for the following reasons.

- a. In Claims 2 and 3, line 2, the phrase "thin protective layer" is stated by the Examiner to render these claims indefinite. The Examiner asks "Which protective layer is considered as 'a thin protective layer'? What is thin?"

In response, the Applicant has insert into Claims 2 and 3 the disclosure from page 15 paragraph [0052], line 16, that the capstock is about 0.1 to about 2.5 mm thick.

- b. In Claim 4, lines 3-4, the phrase "based matrix" is stated by the Examiner to render the claim indefinite because it is not clear what is meant by "based matrix" since the claim is directed to a composition.

In response, the Applicant has deleted the term "based" even though what is meant would clearly be understood by one skilled in the art to be a matrix comprised principally of a homopolymer or copolymer of MMA other components may also be present in the matrix, as is customary in the art. The deletion was made because even without the use of "based" in the claim, the claim would cover matrixes also having other standard components added.

- c. In Claim 4, lines 10-11, the phrase "C<sub>1</sub> esters thereof" is stated by the Examiner to render the claim indefinite.

Also, the Examiner points out that the phrase "acrylic acids" should read --acrylic acid--.

In response, the Applicant has insert into claim 4 the phrase "C1-5 esters" as disclosed on page 11, paragraph 0041, line 4 to correct the typing error and corrected "acids" to be "acid".

d. In Claims 9 and 16, the phrase "high impact polystyrene" is stated by the Examiner to render the claims indefinite. The Examiner poses the following questions: "which polystyrene is considered as 'high impact polystyrene'?" and "What is minimum impact strength polystyrene must have to consider it high impact polystyrene?"

The Applicant does not understand how the use of the term "high impact polystyrene" could render the claims indefinite. "High Impact Poly Styrene" (HIPS) is a widely commercially available type of polystyrene and is well known in the industry even to those without ordinary skill in the art. A search on USPT Website of patents issued since 1976 disclosed that 3051 issued patents use the term "high impact polystyrene". Therefore, this reason for rejection should be withdrawn.

Claims 1 and 2 stand rejected under 35 U.S. C. 102(e) as being anticipated by U.S. Patent 6,444,298 (TADOKORO).

Claims 3-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,420,050 (BIRCH).

Concerning TADOKOTA, the Examiner states:

TADOKORO et al disclose a laminate comprising an acrylic resin containing no impact resistant material layer 16 and an acrylic resin composition containing an acrylic resin and acrylic rubber particles layer 14 (Fig. 2, col. 3, lines 20-31).

Concerning BIRCH, the Examiner states:

BIRCH et al disclose a laminate structure made by co-extrusion feed block process (Example 12). BIRCH et al's laminate structure comprising core layer (B) of polymer such as polypropylene (claim 2), polystyrene (claim 11) (col. 9, line 8 to col. 10, line 7) and skin layer (A) comprises blend of acrylic polymers (col. 3, line 20 to col. 4, line 52). BIRCH et al fail to disclose claimed weight average molecular weight. However in absence of showing criticality claimed weight average molecular weight and claimed thicknesses a person of ordinary skill in the art at the time of this invention made would have found it obvious to optimize acrylic polymer blend by varying the composition of acrylic polymer forming monomer mixture for desired physical properties and flexibility.

The Applicants have reviewed these references. They do not teach, suggest or disclose the Applicants' claimed invention of a composite product comprised of a layer of polystyrene structural plastic having a 0.1 to about 2.5 mm thin protective layer of a blend of an acrylic ester polymer and acrylic polymeric additive. Specifically, the Applicant has discovered that polystyrene and an acrylic can be co-extruded to produce a multilayered sheet exhibiting strong adhesion between acrylic and polystyrene layers if the acrylic layer is a blend of an acrylic ester polymer and acrylic polymeric additive. The fact that a strongly adhering multiple-layer sheeting can be obtained from an acrylic and polystyrene in accordance with the present invention is indeed surprising, since other polymeric materials normally incompatible with polystyrene cannot be co-extruded with polystyrene to yield a satisfactorily adhering multilayered product.

In contrast, as the Examiner states, TADOKORO discloses a laminate comprising (a) an acrylic resin containing no impact resistant material layer and (b) acrylic resin composition containing an acrylic resin and acrylic rubber particles layer.

TADOKORO does not address the problem that the present Applicant has overcome. The problem being an acrylic composition that can be used as a capcoat over a polystyrene structural plastic and which has sufficient adhesion to the polystyrene so as not to require the use of an adhesive layer between the polystyrene structural plastic and the acrylic capcoat.

Neither does BIRCH teach, suggest or disclose the present invention. BIRCH discloses multiplayer structures that are made by a co-extrusion feed block process. BIRCH's laminate structure is comprised of a cap or skin layer (A) and core layer (B) of polyolefin such as polypropylene or polystyrene.

However BIRCH's cap layer is completely different from the cap layer of the present invention. BIRCH's cap layer is comprised of (Ai) from about 50 to 90% by weight of a polymethacrylate ester or polyacrylate ester polymer or their copolymers or blends thereof, but also must contain a special block polymer.

The two types of useful special block polymer are comprised of a vinyl aromatic monomer and an aliphatic conjugated diene, (or a selectively hydrogenated derivative thereof, or a selectively hydrogenated derivative thereof to which has been grafted an unsaturated carboxylic reagent or anhydride), wherein the block polymer also contains either Aii) up to about 50% by weight bound styrene; or Aiii) greater than about 60% by weight bound vinyl aromatic monomer. The use of functionized block copolymer is what provides the adhesion between the layers.

As BIRCH discloses in the patent's prior art section, the addition of a low level of other special block copolymers are well known method to obtain adhesion between dissimilar polymers.

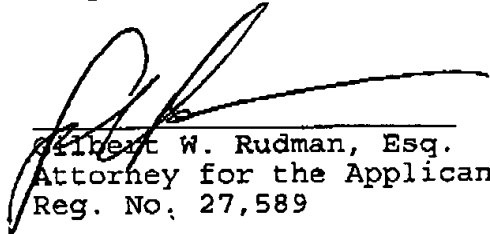
In the present invention, it is unexpected that the same benefit can be obtained by the addition of a random copolymer having the claimed composition. This is especially unexpected given that the

present copolymer additive does not contain any units derived from the styrene or the butadiene components found in various polystyrenes.

Also, there is a major physical property difference between the acrylic capstock of the present invention versus the BIRCH cap layer. The BIRCH cap layer used for polystyrene is opaque and non-weatherable due to the high levels of styrene present in the cap layer. In contrast the acrylic capstock of the present invention is optically transparent and weatherable.

Since the Applicant believes that the reasons for rejection have been overcome, the claims herein should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,



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